



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,027	01/16/2004	Alain Fournier	034299-561	8516
7590	04/04/2005			
Robert E. Krebs Thelen Reid & Priest LLP P.O. Box 640640 San Jose, CA 95164-0640			EXAMINER VO. HAI	
			ART UNIT 1771	PAPER NUMBER

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/760,027	Applicant(s) FOURNIER ET AL.	
	Examiner Hai Vo	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 5-7 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0116</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

1. Claims 5-7 are objected to because of the following informalities: claim 5, line 4, the word "stating" is misspelled. Claim 7, "polymiade" is misspelled. Additionally, the independent claim usually begins with "a" or "an" in accordance with US Patent Practice. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language of claim 5 appears to be grammatically ambiguous so as not to clearly and accurately convey the spatial relationship of the claimed elements. The current phraseology is unclear as to how the open cells of the foam core are filled with a foam. The scope becomes unclear since it is not determinable what structure can fall within the scope of the claim. Various interpretation, including a fabric material having the pores filled with a foam are possible but do not seem within the scope of the disclosed invention. The honeycome core needs to be incorporated in the claims to make the layer arrangement operable.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1771

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cundiff (US 5,569,508) in view of Weinand et al (US 4,569,884). Cundiff discloses a sandwich panel made of a composite material comprising a honeycomb core, an intumescent foam and a fiber overlay impregnated with a resin wherein the cells of the honeycomb core is filled with the intumescent foam (figure 3). Cundiff does not specifically disclose the fabric layer interposed between the core and a fiber overlay. Weinand teaches a composite structure comprising two layers of phenolic prepreg, a fabric layer of polyamide, a honeycomb core, a fabric layer of polyamide and two layers of phenolic prepreg (column 2, lines 59-60, column 3, line 65 et seq.). Weinand discloses that the fabric layer interposed between the honeycomb core and the prepreg materials increases the bonding strength between the core and the skin material (Column 1, lines 55-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the fabric layer of polyamide between the core and the preform fiber prior to resin injection motivated by the desire to improve the bonding strength between the core and the skin material.

Cundiff teaches the lower layer of expandable adhesive generating the foam expanding upwardly into the cells of the honeycomb core above it and the upper layer of expandable adhesive generating the foam expanding downwardly into the cells of the honeycomb core below it. The two advancing fronts of foam meet at the

Art Unit: 1771

boundary line, the mid plane of each of the cells (column 8, lines 60-67). Cundiff does not teach the foam only fills the parts of the cells of the core that are close to the faces of the core. However, degree of filling of the foam in the cells would have been recognized by one skilled in the art as dependent upon the intended use of the product, such that the complete filling the honeycomb with the foam would require for products with improvement in thermal and acoustic insulation while a partial filling the honeycomb with the foam would require for products where the lightness is concerned. As such, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to partially fill the honeycomb core with the foam in a manner as recited in the claim motivated by the desire to reduce the weight and the cost of the panel. This is in line with *In re Aller*, 105 USPQ 233. Discovering the optimum or workable ranges involves only routine skill in the art.

Neither the cited references discloses or suggests the fabric is produced in calendared polyamide. It is the examiner's position that the article of Cundiff as modified by Weinand is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The resulting sandwich panel comprises a honeycomb core and two skin layers; wherein the skin layer comprises a fabric layer and a fibrous layer and both of the layers impregnated with the same resin; wherein the cells of the honeycomb core is filled with the foam material. Even though product-by-process claims are limited by and defined by the process,

Art Unit: 1771

determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Cundiff/Weinand.

6. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cundiff (US 5,569,508) in view of Hartz et al (US 5,604,010). Cundiff discloses a sandwich panel made of a composite material comprising a honeycomb core, an intumescent foam and a fiber overlay impregnated with a resin wherein the cells of the honeycomb core is filled with the intumescent foam (figure 3). Cundiff does not specifically disclose the fabric layer interposed between the core and a fiber overlay. Hartz teaches a composite structure comprising an open cell honeycomb core isolated from the resin by a dry polyamide barrier layer (figure 2, column 1, lines 11-15, column 2, lines 31-35 and column 3, lines 11-15, 47-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

was made to employ the fabric layer of polyamide between the core and the preform fiber prior to resin injection motivated by the desire to isolate the open cell honeycomb core from the injection resin.

Cundiff teaches the lower layer of expandable adhesive generating the foam expanding upwardly into the cells of the honeycomb core above it and the upper layer of expandable adhesive generating the foam expanding downwardly into the cells of the honeycomb core below it. The two advancing fronts of foam meet at the boundary line, the mid plane of each of the cells (column 8, lines 60-67). Cundiff does not teach the foam only fills the parts of the cells of the core that are close to the faces of the core. However, degree of filling of the foam in the cells would have been recognized by one skilled in the art as dependent upon the intended use of the product, such that the complete filling the honeycomb with the foam would require for products with improvement in thermal and acoustic insulation while a partial filling the honeycomb with the foam would require for products where the lightness is concerned. As such, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to partially fill the honeycomb core with the foam in a manner as recited in the claim motivated by the desire to reduce the weight and the cost of the panel. This is in line with *In re Aller*, 105 USPQ 233. Discovering the optimum or workable ranges involves only routine skill in the art.

Neither the cited references discloses or suggests the fabric is produced in calendared polyamide. It is the examiner's position that the article of Cundiff as

modified by Hartz is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The resulting sandwich panel comprises a honeycomb core and two skin layers; wherein the skin layer comprises a fabric layer and a fibrous layer and both of the layers impregnated with the same resin; wherein the cells of the honeycomb core is filled with the foam material. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Cundiff/Hartz.

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinand et al (US 4,569,884) and Gorges (US 4,557,961). Weinand teaches a fire resistant composite structure comprising two layers of phenolic prepreg, a fabric

Art Unit: 1771

layer of polyamide, a honeycomb core, a fabric layer of polyamide and two layers of phenolic prepreg (column 2, lines 59-60, column 3, line 65 et seq.). Weinand teaches that the fabric layer is also impregnated with the phenolic resin (column 2, lines 5-10). Weinand does not specifically disclose the cells of the core filled with a foam. Gorges discloses a fire resistant panel made of a composite material comprising a honeycomb core having a foam filler either throughout all of the cells or throughout only a localized region of the cells to provide the panel with appreciable heat and sound insulation (column 7, lines 15-25). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to partially fill the cells of the honeycomb core with the foam in a manner as recited in the claims motivated by the desire to provide the panel with appreciable heat and sound insulation.

Neither the cited references discloses or suggests the fabric is produced in calendared polyamide. It is the examiner's position that the article of Weinand as modified by Gorges is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The resulting sandwich panel comprises a honeycomb core and two skin layers; wherein the skin layer comprises a fabric layer and a fibrous layer and both of the layers impregnated with the same resin; wherein the cells of the honeycomb core is filled with the foam material at the regions that are close to the faces of the core. Even though product-by-process claims are limited by and defined by the process, determination of patentability is

Art Unit: 1771

based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Weinand/Gorges.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 1771

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo
Tech Center 1700